



Complete Summary

TITLE

Venous thromboembolism (VTE): percent of patients diagnosed with confirmed VTE that are discharged to home, to home with home health or home hospice, or discharged/transferred to court/law enforcement on warfarin with written discharge instructions that address all four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct. various p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure* is used to assess the percent of patients diagnosed with confirmed venous thromboembolism (VTE) that are discharged to home, to home with home health or home hospice or discharged/transferred to court/law enforcement on warfarin with written discharge instructions that address **all** four criteria: compliance issues, dietary advice, follow-up monitoring, and information about the potential for adverse drug reactions/interactions.

*This is a Joint Commission only measure.

RATIONALE

In the hospital, effective patient and family education is emerging as an important issue of health care in spite of inconsistent results related to patient outcomes. However, there is evidence that clear and understandable instructions given when the patients are ready to learn can increase their satisfaction. Due to decreased length of stay, patients are discharged sooner with more complex medical conditions and need to be knowledgeable about their treatment and health care needs.

Anticoagulation therapy poses risks to patients and often leads to adverse drug events due to complex dosing, requisite follow-up monitoring and inconsistent patient compliance. The use of standardized practices for anticoagulation therapy that includes patient/caregiver involvement may reduce the risk of adverse drug events. The 2009 National Patient Safety Goal 3E, Implementation Expectation (M) C.10 states that the organization provides education regarding anticoagulation therapy to patients/family that includes the importance of follow-up monitoring, compliance issues, dietary restrictions, and potential for adverse drug reactions and interactions.

PRIMARY CLINICAL COMPONENT

Venous thromboembolism (VTE); warfarin therapy; discharge instructions

DENOMINATOR DESCRIPTION

Patients with confirmed venous thromboembolism (VTE) discharged on warfarin therapy (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Patients with documentation that they or their caregivers were given written discharge instructions or other educational material about warfarin that addressed **all** of the following:

1. Compliance issues
2. Dietary advice
3. Follow-up monitoring
4. Potential for adverse drug reactions and interactions

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Antithrombotic and thrombolytic therapy for ischemic stroke. American College of Chest Physicians evidence-based clinical practice guidelines \(8th edition\).](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Ansell J, Hirsh J, Hylek E, Jacobson A, Crowther M, Palareti G. Pharmacology and management of the vitamin K antagonists: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest 2008 Jun;133(6 Suppl):160S-98S. [419 references] [PubMed](#)

Leino-Kilpi H, Johansson K, Heikkinen K, Kaljonen A, Virtanen H, Salanterä S. Patient education and health-related quality of life: surgical hospital patients as a case in point. J Nurs Care Qual 2005 Oct-Dec;20(4):307-16; quiz 317-8. [PubMed](#)

Oermann MH, Masserang M, Maxey M, Lange MP. Clinic visit and waiting: patient education and satisfaction. Medsurg Nurs 2002 Oct;11(5):247-50. [PubMed](#)

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Collaborative inter-organizational quality improvement
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component**INCIDENCE/PREVALENCE**

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Patients of all ages need education, but of special concern are people aged 65 and older because they tend to take more medication due to chronic illnesses. In addition, older people often have physical and cognitive challenges that may impact medication use. Poor adherence is also a serious problem to the medically underserved which is defined as Americans of all ethnic backgrounds who are poor, lack insurance, or otherwise have inadequate access to health care. This population is significantly correlated with health literacy. Studies have shown that patients fail to follow regimens for a variety of reasons including poor understanding of their medicine and illness.

EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

National Council on Patient Information and Education. Enhancing prescription medicine adherence: a national action plan. Bethesda (MD): National Council on Patient Information and Education; 2007 Aug 1. 38 p.

BURDEN OF ILLNESS

Patients benefit from education about the potential consequences of both their disease and its treatment, and thorough patient education on warfarin has been shown to decrease the risk of bleeding in older adults. Medication regimens with anticoagulation will continue after discharge, so hospital providers need to communicate ample information during the inpatient period so the patient will be able practice self-management at home. In the hospital, effective patient and family education is emerging as an important issue of healthcare in spite of inconsistent results related to patient outcomes. Providing written instructions about the medication has been shown to improve the patients' knowledge and decrease medication errors.

EVIDENCE FOR BURDEN OF ILLNESS

Gorski LA. Thromboembolism: implications for the home care nurse. Home Healthc Nurse 2007;25(2):95-100.

Institute for Clinical Systems Improvement (ICSI). Anticoagulation therapy supplement. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2006 Apr. 49 p. [91 references]

Leino-Kilpi H, Johansson K, Heikkinen K, Kaljonen A, Virtanen H, Salanterä S. Patient education and health-related quality of life: surgical hospital patients as a case in point. J Nurs Care Qual 2005 Oct-Dec;20(4):307-16; quiz 317-8. [PubMed](#)

National Council on Patient Information and Education. Enhancing prescription medicine adherence: a national action plan. Bethesda (MD): National Council on Patient Information and Education; 2007 Aug 1. 38 p.

UTILIZATION

Hospitals, health care providers and other parts of the health delivery system intervene with patients and caregivers in a fragmented approach according to the National Council on Patient Information and Education's August white paper.

See also the "Costs" field.

EVIDENCE FOR UTILIZATION

National Council on Patient Information and Education. Enhancing prescription medicine adherence: a national action plan. Bethesda (MD): National Council on Patient Information and Education; 2007 Aug 1. 38 p.

COSTS

Patients commonly fail to take their medication as directed, leading to unnecessary hospital admissions and even death, costing the health care system as much as \$177 billion a year. Patients receiving warfarin need education about the medication due to its slow onset and offset of action, an unpredictable response, and multiple food and drug interactions that require intense monitoring. These issues can cause global under-use and poor management that can result in a high rate of adverse events.

EVIDENCE FOR COSTS

Ansell JE. Anticoagulation Management as a Risk Factor for Adverse Events: Grounds for Improvement. J Thromb Thrombolysis 1998 Jan;5 Suppl 1(3):13-18. [PubMed](#)

National Council on Patient Information and Education. Enhancing prescription medicine adherence: a national action plan. Bethesda (MD): National Council on Patient Information and Education; 2007 Aug 1. 38 p.

Stafford RS, Singer DE. National patterns of warfarin use in atrial fibrillation. Arch Intern Med 1996 Dec 9-23;156(22):2537-41. [PubMed](#)

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

Patient-centeredness

Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All patients, age 18 years and older, with confirmed venous thromboembolism (VTE) discharged on warfarin therapy (see the "Denominator Inclusions/Exclusions" field)

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Patients with confirmed venous thromboembolism (VTE) discharged on warfarin therapy

- Discharges with an *International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) Principal or Other Diagnosis Codes* of VTE as defined in Appendix A, Table 7.03 or 7.04 of the original measure documentation
- Discharged to home
- Discharged to home with home health
- Discharged to home hospice
- Discharged/transferred to court/law enforcement

Exclusions

- Patients less than 18 years of age
- Patients who have a length of stay (LOS) greater than 120 days
- Patients enrolled in clinical trials
- Patients without *Warfarin Prescribed at Discharge*
- Patients without VTE confirmed by diagnostic testing

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization
Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Patients with documentation that they or their caregivers were given written discharge instructions or other educational material about warfarin that addressed **all** of the following:

1. Compliance issues
2. Dietary advice
3. Follow-up monitoring
4. Potential for adverse drug reactions and interactions

Exclusions

None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Institutionalization

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

This measure has undergone a rigorous process of public comment and two phases (alpha and pilot [beta]) of testing that included reliability testing. The pilot specifications and algorithms were tested at over 40 hospitals (5,713 cases) for six months during 2007.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

Information about the Candidate Voluntary Consensus Standards for Hospital Care, additional priorities, 2007, detailed performance measure evaluation [unpublished].

Identifying Information

ORIGINAL TITLE

VTE-5: venous thromboembolism discharge instructions.

MEASURE COLLECTION

[National Hospital Inpatient Quality Measures](#)

MEASURE SET NAME

Venous Thromboembolism (VTE)

SUBMITTER

Centers for Medicare & Medicaid Services
Joint Commission, The

DEVELOPER

Centers for Medicare & Medicaid Services/The Joint Commission

FUNDING SOURCE(S)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

Technical advisory panel of stakeholders.Â The list of participants is available at <http://www.jointcommission.org/NR/rdonlyres/1A4DF024-92D7-42D0-B997-348193843D89/0/VTETechnicalAdvisoryPanel.pdf>.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Joint Commission's Conflict of Interest policies, copies of which are available upon written request to The Joint Commission.

ENDORSER

National Quality Forum

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2009 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct. various p.

MEASURE AVAILABILITY

The individual measure, "VTE-5: Venous Thromboembolism Discharge Instructions," is published in "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available from [The Joint Commission Web site](#). Information is also available from the [Centers for Medicare & Medicaid Services \(CMS\) Web site](#). Check The Joint Commission Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

NQMC STATUS

The Joint Commission submitted this NQMC measure summary to ECRI Institute on September 18, 2009. This NQMC summary was reviewed accordingly by ECRI Institute on November 10, 2009.

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